

SEQUENCE LISTING

<110> AKZO Nobel N.V.

<120> Babesia canis vaccine

<130> Bccvirvaccine

<140>

<141>

<160> 10

<170> PatentIn Ver. 2.1

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<211> 1135

<212> DNA

<213> Babesia canis

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<221> CDS

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Met Glu Ser Thr Ser Thr Thr Thr Asn Phe Val Ala

1

5

10

gag aac cgt ccc acc ttt ggt gag acg ttt gat gtg atg agg gaa gct 158

Glu Asn Arg Pro Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala

15

20

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ttg ctt cgt gta aag tcc tct gaa cgc ttg gca atg ctc aga gcg ctt 206

Leu Leu Arg Val Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu

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gca gga atg tgc ggt cac cgc gtc ctt cct ggc act ggt gct tct gcg 254

Ala Gly Met Cys Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala

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55

60

ata gcg gca acg gta acc cca aag ggg gct tcg atg aag ctt aaa cca 302

Ile Ala Ala Thr Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro

65

70

75

ccg cgt ccg cag tca acg aag tct ccg gag ctc agg gag ctg tca cgg 350

202207051500

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Pro Arg Pro Gln Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg
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Lys Ile Arg Glu Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val
      95                      100                      105

aac cac cgg ttg ccg gaa ggc cac cct ctc tta gag aag cgg gca gaa 446
Asn His Arg Leu Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu
      110                      115                      120

tat ttt cgt cac ctt aga tct ctt aag agc caa gga gtc aat aga ctc 494
Tyr Phe Arg His Leu Arg Ser Leu Lys Ser Gln Gly Val Asn Arg Leu
      125                      130                      135                      140

atc taa gaaggcacta cgtaggtacc gtgcctctat gaggaatacg aaccgactag 550
Ile

tgcacaatag acgaccagtt ctaccaaagg tagagcctga ctctaatacta ccattcggcc 610

agcgacggag tcgcatgaca acgtggaatc ttagaccacg ccggacgggt tatccgtcaa 670

atggtacttt ggcagttacg gaactcctga tctcgattta tagatcaaac ttctacacct 730

tgaaggtggt cgaggaaggg agatgtacgt gctgcaacac ccataaggag caagctttgc 790

tactcctatc cggttacctc cagctatatc gtgcactgca ctcagttgga aggtctgtat 850

tcgtagaata ctgcaaaacc aggatatgcg tcgaggcaag cctcacggga ctacgtccga 910

gggtgaccct aacgggctgc tgaactaggt tcagccagcg cttcctgtga gtatgtcatt 970

ccgggtcctt cggggcccg gccagtttcg actggtgtag gtttgcccta ctagagtact 1030

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<212> PRT

<213> Babesia canis

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Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys
 35 40 45

Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr
 50 55 60

Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln
 65 70 75 80

Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu
 85 90 95

Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu
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Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Arg His
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 1 5 10

gag aac cgt ccc acc ttt ggt gag acg ttt gat gtg atg agg gaa gct 158
 Glu Asn Arg Pro Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala
 15 20 25

ttg ctt cgt gta aag tcc tct gaa cgc ttg gca atg ctc aga gcg ctt 206
 Leu Leu Arg Val Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu

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ata gcg gca acg gta acc cca aag ggg gct tcg atg aag ctt aaa cca			302
Ile Ala Ala Thr Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro			
65	70		75
ccg cgt ccg cag tca acg aag tct ccg gag ctc agg gag ctg tca cgg			350
Pro Arg Pro Gln Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg			
80	85		90
aag att cgc gaa atg aat aag act ata agt cag gaa tca gct cgg gta			398
Lys Ile Arg Glu Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val			
95	100		105
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Asn His Arg Leu Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu			
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Tyr Phe Val Thr Leu Asp Leu Leu Arg Ala Lys Glu Ser Ile Asp Ser			
125	130	135	140
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Ser Lys Lys Ala Leu Arg Arg Tyr Arg Ala Ser Met Arg Asn Thr Asn			
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cga cta gtg cac aat aga cga cca gtt cta cca aag gta gag cct gac			590
Arg Leu Val His Asn Arg Arg Pro Val Leu Pro Lys Val Glu Pro Asp			
160	165		170
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Ser Asn Leu Pro Phe Gly Gln Arg Arg Ser Arg Met Thr Thr Trp Asn			
175	180		185
ctt aga cca cgc cgg acg ggt tat ccg tca aat ggt act ttg gca gtt			686
Leu Arg Pro Arg Arg Thr Gly Tyr Pro Ser Asn Gly Thr Leu Ala Val			
190	195		200
acg gaa ctc ctg atc tcg att tat aga tca aac ttc tac acc ttg aag			734
Thr Glu Leu Leu Ile Ser Ile Tyr Arg Ser Asn Phe Tyr Thr Leu Lys			
205	210	215	220
gtg gtc gag gaa ggg aga tgt acg tgc tgc aac acc cat aag gag caa			782
Val Val Glu Glu Gly Arg Cys Thr Cys Cys Asn Thr His Lys Glu Gln			

225 230 235

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Ala Leu Leu Leu Leu Ser Gly Tyr Leu Gln Leu Tyr Arg Ala Leu His
240 245 250

tca gtt gga agg tct gta ttc gta gaa tac tgc aaa acc agg ata tgc 878
Ser Val Gly Arg Ser Val Phe Val Glu Tyr Cys Lys Thr Arg Ile Cys
255 260 265

gtc gag gca cgc ctc acc gga cta cgt ccg agg gtg acc cta acg ggc 926
Val Glu Ala Arg Leu Thr Gly Leu Arg Pro Arg Val Thr Leu Thr Gly
270 275 280

tgc tgaactaggt tcagccagcg cttcctgtga gtatgtcatt cggggtcctt 979
Cys
285

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20 25 30
Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys
35 40 45
Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr
50 55 60
Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln
65 70 75 80
Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu
85 90 95

Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu
 100 105 110

Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Val Thr
 115 120 125

Leu Asp Leu Leu Arg Ala Lys Glu Ser Ile Asp Ser Ser Lys Lys Ala
 130 135 140

Leu Arg Arg Tyr Arg Ala Ser Met Arg Asn Thr Asn Arg Leu Val His
 145 150 155 160

Asn Arg Arg Pro Val Leu Pro Lys Val Glu Pro Asp Ser Asn Leu Pro
 165 170 175

Phe Gly Gln Arg Arg Ser Arg Met Thr Thr Trp Asn Leu Arg Pro Arg
 180 185 190

Arg Thr Gly Tyr Pro Ser Asn Gly Thr Leu Ala Val Thr Glu Leu Leu
 195 200 205

Ile Ser Ile Tyr Arg Ser Asn Phe Tyr Thr Leu Lys Val Val Glu Glu
 210 215 220

Gly Arg Cys Thr Cys Cys Asn Thr His Lys Glu Gln Ala Leu Leu Leu
 225 230 235 240

Leu Ser Gly Tyr Leu Gln Leu Tyr Arg Ala Leu His Ser Val Gly Arg
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<210> 10
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